

**ABSTRACT OF THE INVENTION**

The present invention is concerned with a disposable electrophoresis cassette particularly suitable for pre-cast polyacrylamide gels for protein and nucleic acid electrophoresis. The invention also comprises a support plate for the said cassette that acts as a heat sink and provides a more uniform migration front in operation since the temperature of the gel is substantially the same during electrophoresis operation. Also disclosed is a novel comb element for filling the cassette, and a novel method therefor.